

Claims

- [c1] A method for controlling locking a lid of a washing machine, the washing machine including an agitation element and a basket, said method comprising the steps of:
sensing a spin speed associated with a spin speed of at least one of the agitation element and the basket, and
causing the lid to be locked when the sensed spin speed exceed a first predetermined speed.
- [c2] A method in accordance with Claim 1 wherein sensing a spin speed comprises the step of sensing rotation of a drive shaft for driving at least one of the agitation element and the basket.
- [c3] A method in accordance with Claim 2 wherein the drive shaft extends from a clutch system and at least one magnet is secured to the shaft, and a sensor, and wherein sensing spin speed comprises the steps of:
operating the sensor to generate a signal when the magnet passes by the sensor; and
generating a voltage signal representative of a spin speed based on the sensor generated signal.
- [c4] A method in accordance with Claim 3 wherein the sensor generated signal is a square wave, and wherein a frequency to voltage converter is utilized to generate a voltage signal from the sensor generated square wave signal.
- [c5] A method in accordance with Claim 1 wherein causing the lid to be locked when the sensed spin speed exceed a first predetermined speed comprises the step of energizing a lid lock solenoid with the sensed spin speed exceeds the first predetermined speed.
- [c6] A method in accordance with Claim 1 further comprising the step of causing the lid to be unlocked with the sensed spin speed is below a second predetermined speed.
- [c7] A method in accordance with Claim 6 wherein the first predetermined speed is greater than the second predetermined speed.

[c8] A lid lock system for a washing machine, the washing machine including an agitation element, a basket, and a transmission and clutch system, the transmission and clutch system including a drive shaft coupled to the agitation element and basket for causing the agitation element and basket to spin, said lid lock system comprising:
a sensor for generating an output signal associated with a spin speed of at least one of the agitation element and basket,
a lid lock solenoid for controlling operation of a lid lock, and
a control circuit for energizing the lid lock solenoid based on the sensor output signal.

[c9] A lid lock system according to Claim 8 further comprising at least one magnet secured to the drive shaft.

[c10] A lid lock system according to Claim 8 wherein the sensor comprises a Hall effect sensor.

[c11] A lid lock system according to Claim 8 wherein the control circuit comprises at least one flip flop.

[c12] A lid lock system according to Claim 11 wherein the control circuit further comprises a timer.

[c13] A lid lock system according to Claim 8 wherein the control circuit comprises a frequency to voltage converter.

[c14] A washing machine comprising:
a cabinet comprising an opening;
a lid movable from and between an open position and a closed position over said opening;
a lid lock for locking said lid in a closed position;
a basket mounted within said cabinet;
an agitation element mounted within said basket;
a drive system coupled to said agitation element and to said basket; and
a lid lock circuit comprising a sensor for generating an output signal associated with a spin speed of at least one of said agitation element and basket, a lid lock

solenoid for controlling operation of said lid lock, and a control circuit for energizing said lid lock solenoid based on the sensor output signal.

- [c15] A washing machine according to Claim 14 wherein said lid lock circuit further comprises at least one magnet secured to the drive shaft.
- [c16] A washing machine according to Claim 14 wherein said sensor comprises a Hall effect sensor.
- [c17] A washing machine according to Claim 8 wherein said control circuit comprises at least one of a flip flop, a timer, and a frequency to voltage converter.